March 2021

Brown's Stages of Morphosyntactic Development Applied to the Typical Development of Italian

Marie Laiche
Louisiana State University and Agricultural and Mechanical College

BROWN'S STAGES OF MORPHOSYNTACTIC DEVELOPMENT APPLIED TO THE TYPICAL DEVELOPMENT OF ITALIAN

A Thesis

Submitted to the Graduate Faculty of the
Louisiana State University and
Agricultural and Mechanical College
in partial fulfillment of the
requirements for the degree of
Masters of Arts

in

The Department of Communication Sciences and Disorders

by
Marie Laiche
B.A., Louisiana State University, 2019
May 2021

Table of Contents

ABSTRACT

Background: In *A First Language* (1973), Roger Brown called for an increase in crosslinguistic data and analysis of morphosyntax across languages as more research in this field is crucial for working out the overarching determinants of language acquisition order and for the ability to accurately compare child language acquisition across different languages. An increase in this research would benefit linguistic researchers and speech-language-pathologists offering services to or evaluating children speaking a different language or more than one language. The current study seeks to add to the field of crosslinguistic research by adapting Brown's guidelines of English language acquisition to the morphosyntax of standard Italian. **Method:** Participants included monolingual, typically developing Italian-speaking children aged 1;4-3;4. The longitudinal transcripts analyzed were provided by *The Child Language Data Exchange System* (CHILDES). Data was collected on the children's productions of 10 chosen Italian morphemes (adapted from Brown's 14 English morphemes) and their *Mean Length of Utterance* (MLU). **Results:** For the 10 morphemes, the Italian *Ages of Acquisition (AoAs)* begin and end later and include a wider period of time for the Present Progressive; begin sooner yet end later for *in* and *su*; and begin and end earlier for Plurals, Irregular Past Tense, Possessive *di*, Articles, Regular Past Tense, 3rd Person Regular Present, and 3rd Person Irregular Present. For the MLU Stages I-V+, the Italian AoAs generally begin and end earlier than the English AoAs. **Discussion:** The findings of this report support the application of Brown's (1973) language acquisition measurement to languages beyond English and call for further research in this topic to minimize the gaps in knowledge between accurate, cross-linguistic comparison of children's first language acquisition.

CHAPTER 1. INTRODUCTION

The emergence of grammatical morphology in child development in a predictable sequence and at predictable ages was established by renowned American Psychologist Dr. Roger Brown (1973) and validated by numerous studies across populations of English-speaking children, including those with typical development who speak General American English (Balason & Dollaghan, 2002; James & Khan, 1982; Owens, 1994) and other American English dialects (Oetting et al., 2013; Roy et al., 2013; Stockman, 2006; and Stockman, 2010). Brown's predictable sequence for grammatical morphology in spite of delayed acquisition has also been documented in children with language disorders (Khan & James, 1983; Rescorla & Turner, 2015; Tek et al., 2014; Warlaumont & Jarmulowicz, 2012; and Werfel, 2018), and other clinical conditions (Murakami & Alexopoulou, 2016; Varghese et al., 2014; and Varghese et al., 2015).

In his work *A First Language* (1973), Brown states that cross-linguistic data is crucial for working out the overarching determinants of acquisition order. Indeed, by establishing one set of guidelines as a universal, cross-linguistic measurement of child language acquisition, researchers would thus be able to further decipher the underlying determinants of language acquisition order. Moreover, *Speech-Language-Pathologists* (SLPs) and linguistic researchers could more readily compare/contrast language acquisition milestones across languages, compare/contrast the effect of targeting certain language goals at certain ages across languages, and increase the accuracy/carryover of child language assessments across languages other than English. Research on order of acquisition in other languages is currently lacking, and the available data rarely uses explicit guidelines of language acquisition, which makes cross-linguistic comparison difficult. This difficulty is amplified when authors do not offer detailed descriptions of the selected morphemes in the text. Other languages differ from English in all

aspects of form, function, and meaning; therefore, further data in this field offers the possibility of separating variables confounded in the English language. Brown believes his own guidelines of acquisition should be used across all languages, allowing for necessary linguistic variations (Brown, 1973).

Unfortunately, only a few studies have attempted to establish Brown's guidelines for normative development across languages. The few languages that have been analyzed in this specific way include Dutch (Arlman-Rupp et al., 1976), Russian (Tomas & Dorofeeva, 2019), and Inuktitut (Allen & Crago,1992). Currently, the Italian language has not yet been added to this short list. The purpose of this review is to examine the emergence of morphosyntactic markers comparable to Brown's (1973) established guidelines in children acquiring Italian as their primary language. By doing so, the findings of this paper should 1) supply evidence to support Brown's theory that his guidelines can be applied to all languages and 2) assist in establishing one set of guidelines as a universal cross-linguistic measurement of language acquisition in hopes to further uncover the determinants of acquisition order and allow for developmental comparison across languages.

A Brief Explanation of Brown's Established Guidelines for Language Development

Beginning in 1962, Dr. Roger Brown recorded, transcribed, and analyzed longitudinal language samples of his three test subjects, Adam, Eve, and Sarah, focusing on their development of the English language during their preschool years. After gathering all the data from the samples, Brown endeavored to break apart the three children's common progression in language development into five stages based mainly upon their *Mean Length of Utterance* (MLU). The results of some of his work can be summarized into two tables, which have been

extensively used to measure English development of children in linguistic research and speech therapy settings, as mentioned in the introduction of this paper.

Based on the evidence from his 1962 study, Brown established not only a set list of commonalities in language acquisition to be expected among all typically-developing children, but also set *Ages of Acquisition* (AoAs) at which to expect these language milestones for children (Brown, 1973). Firstly, at around 12-26 months of age, a child is expected to be entering Stage I of his/her language development. At this stage, the child should be speaking in utterances of 1-2 morphemes (sometimes 3), using intonation patterns for yes/no questions, and using limited wh-questions, such as, "what that?" or "why?" Next, at 27-30 months, a child should be in Stage II of his/her language acquisition, producing utterances that are on average 2 to 2.5 morphemes in length, and beginning to produce grammatical morphemes such as "in" and "on." At Stage III, the 31-34-month old child increases his/her utterance length to 2.5 to 3 morphemes due to the use of auxiliaries. The child may also increase his/her use of wh- questions and interrogative reversals, for example, changing sentences such as "She is sick" into its question form, "Is she sick?" Before this stage, a child may only be asking questions by changing his/her intonation when stating a sentence. For instance, a child may ask, "She is sick?" pronouncing "sick" with an increased pitch. At 35-40 months, a child enters Stage IV, which is indicative of an MLU of 3 to 3.75 words, the use of object-noun-phrase complements (such as "I made her happy," "They are happy," or "It's a good day," respectively), and the use of indirect or embedded wh-questions (such as "She is who I love"). At 41-46 months, a child enters Stage V, in which he/she exhibits an MLU of 3.75-4.5 morphemes, produces simple sentences, uses locatives (such as, "up" and "down"), and uses "and" as the main conjunction (as in, "We sing, and they listen"). After 46 months, a child should be beyond Stage V. Moving forward, the child should display an

MLU of more than 4.5 morphemes, use negative interrogatives (such as, “Why isn’t it good?”), use indefinite forms (i.e., “no one” or “nobody”), yet still exhibit difficulty with double negatives. For instance, the child may say, “I don’t have nothing” instead of, “I don’t have anything.” The child will master these types of utterances later in his/her language development.

Table 1. Brown’s Five Stages Taken from *A First Language: The Early Steps (1973)*

Brown’s Stages of Language Development	Age	MLU	Milestones
I	12-26 months	1.0-2.0	• Uses one-, two-, and three-morpheme utterances • Uses intonation to ask yes/no questions • Uses limited wh- questions
II	27- 30 months	2.0-2.5	• Begins to use grammatical morphemes • Uses in and on
III	31-34 months	2.5-3.0	• Increases in length due to use of auxiliaries • Increases use of wh- questions • Uses interrogative reversals
IV	35-40 months	3.0-3.75	• Uses object-noun-phrase complements • Uses indirect or embedded wh-questions
V	41-46 months	3.75-4.5	• Coordinates simple sentences • Uses locatives (e.g., up, down) • Uses and as main conjunction
V+	47+ months	4.5+	• Adds negative interrogatives • Adds indefinite forms, such as nobody, no one • Has some difficulty with double negatives

Along with his 5+ Stages of Language Development, Brown also established AoAs for specific, obligatory grammatical morphemes. Below is Brown’s list of 14 American English grammatical morphemes and the average AoAs for each, which is based on the first month in which the participant used the morpheme with 90% accuracy in obligatory contexts. These

morphemes include the present progressive -ing, in, on, plural -s, irregular past tense, possessive -'s, uncontractible copula, articles, regular past tense, 3rd person regular present, 3rd person irregular, uncontractible auxiliary, contractible copula, and contractible auxiliary. The AoAs for each morpheme span across one or more of the 5+ Stages. Brown attributes the present progressive -ing, in, on, and plural -s to Stage II; irregular past tense, possessive -'s, and uncontractible copula to Stage III; articles, regular past tense, and 3rd person regular present to Stage IV; and 3rd person irregular, uncontractible auxiliary, contractible copula, and contractible auxiliary to Stage V. See the below table for the respective AoAs and contextual examples for each morpheme.

Table 2. Brown's 14 Morphemes Taken from *A First Language: The Early Steps (1973)*

English Morpheme Types	Example in English	Age of Mastery (in months)	Brown's Stage
1. Present Progressive	I am writing.	19-28	II
2. In	The woman is in the kitchen.	27-30	II
3. On	The bird is on the fence.	27-30	II
4. Plural "s"	boys; girls	24-30	II
5. Irregular Past Tense	To run → ran To fall → fell	25-46	III
6. Possessive "s"	The girl's gift; The boy's gift	26-40	III
7. Uncontractible Copula	Is she there?	26-39	III
8. Articles	the women; the men; a book; an apple	28-46	IV
9. Regular Past Tense	He talked.	26-46	IV
10. 3rd Person Regular Present	She believes.	26-46	IV
11. 3rd Person Irregular	To have → has	28-50	V
12. Uncontractible Auxiliary	Where is he walking?	29-48	V
13. Contractible Copula	She is mad. (She's)	29-49	V
14. Contractible Auxiliary	He is walking. (He's)	30-50	V

Cross-Linguistic Studies Using Brown's Guidelines

While illuminating for the field of language acquisition, the three cross-language studies mentioned at the introduction of this report mostly fall short in the application of Brown's guidelines. Firstly, these studies only draw focus to Brown's guidelines by way of a vague comparison point rather than as a standard of measurement. For instance, Tomas & Dorofeeva's 2019 study on Russian bases their guidelines not only on Brown's work but also on works by Radford (1990) and Pinker (1994). The current study strives to utilize Brown's guidelines alone to establish a distinct set of comparative guidelines to be used to analyze a child's progress in the language acquisition of Italian. Furthermore, cross-linguistic studies have focused mainly on Brown's first stage of development, as seen in Arlman-Rupp et al.'s 1976 study on Dutch. According to Brown, a child typically begins developing grammatical morphemes during Stage II (MLU: 2.0-2.5; Age: 27-30 months). By focusing mainly on Stage I (MLU: 1.0-2.0; Age: 12-26 months), current cross-linguistic research has not yet yielded enough information concerning the emergence of grammatical morphemes to indicate if Brown's standards for all five stages apply to languages other than English. Indeed, Brown mentions in *A First Language* (1973) that far more research has been conducted concerning Stage I in American English and in other languages (including Finnish, Samoan, Swedish, Spanish, Luo, and German). To support this claim, he states that cross-linguistic research for Stages II-V+ are limited due mostly to researchers' lack of the immense time needed to complete analyses beyond that point of acquisition (Brown, 1973). For these reasons, this paper strives to go beyond the first stage to focus on Stages I through IV (MLU: 1-3.75; Age: 12-40 months) of child language acquisition for Italian. Lastly, Allen and Crago's 1992 study on Inuktitut used Brown's guidelines specifically and analyzed data in almost all of the Five Stages of Language Development;

however, their study did not conclude with specific results or a cross-linguistic comparison. Contrarily, this paper will conclude with the specific results of this endeavor and a comparative analysis of the cross-linguistic morphemes of Italian and American English and their AoAs.

Cross-Linguistic Studies Referenced by Brown

To further add to the reader's understanding of the recent history of cross-linguistic research, the similar studies mentioned in *A First Language* (1973) will be briefly examined. Brown comments on studies of his time period that analyzed language development by their own guidelines in languages other than English. These studies included analyses on the following languages: Finnish (Bowerman, 1973), Samoan (Kernan, 1969), Luo (Blount, 1969), and Russian (Slobin, 1966; Popova, 1958; and Zakhorova, 1958). While linguistically informative, these studies on four diverse languages did not entirely assist in Brown's unique endeavor to establish one guidelines of language development applicable to all languages.

First, Bowerman's (1973) study on Finnish did not analyze the development of grammatical morphemes. Second, Kernan's (1969) study on Samoan focused mainly on Stage I and gave almost no data on the acquisition of grammatical morphemes. Third, Blount's (1969) study on Luo, spoken in the Nyanza Province of Kenya, gave some useful information on the acquisition order of grammatical morphemes in that language. Further, the order proved to agree with Brown's established order for American English; however, Brown points out that a generalization as such cannot be made when based only on Blount's unfortunately small corpus of data (Brown, 1973). Fourth, Slobin's (1966), Popova's (1958), and Zakhorova's (1958) studies on the acquisition of Russian also give some support to Brown's order of acquisition. However, the increased complexity, or regularity, of the Russian language and grammar make comparison difficult, particularly for Stage II. Overall, the AoAs for grammatical morphemes

appear to be much later in Russian than in American English, which Slobin attributes, again, to the extreme regularity of the Russian language. Additionally, Brown also mentions that there are many, well-known studies on language development in French and German, but he decided that there would be no point in reviewing those studies in his work. For his reasoning, he explained that the common difficulties with this feat are the lack of explicit guidelines of acquisition and the lack of information on the semantics and syntax of the morphemes (Brown, 1973).

As previously mentioned, the purpose of this review is to examine the development of morphosyntax in Italian-speaking children in a similar way to Brown's (1973) study with English-speaking children. To avoid the common difficulties addressed above when comparing American English, a Germanic language, to Italian, a Romantic language, research on the linguistics of Italian was used in choosing the morphemes to be analyzed and compared below. Adriana Belletti and Maria Teresa Guasti's (2015) work titled *The Acquisition of Italian: Morphosyntax and its interfaces in different modes of acquisition* provided great insight when choosing the comparable grammatical morphemes for the Italian language. Other secondary Italian grammar resources included Olga Ragusa's (1963) *Essential Italian Grammar* and WordReference.com (Kellogg, 2021).

Brown's Language Development Guidelines Applied to the Italian Language

The three main goals of this paper are 1) to find the Italian grammatical morphemes that are mostly equivalent to Brown's morphemes, 2) to determine the average AoAs in months for each of the chosen Italian grammatical morphemes and the developmental stages, and 3) to compare the findings for both to the order of acquisition established by Brown for American-English.

A major dissimilarity between the grammatical morphemes of both English and Italian is the differences in expression of auxiliary and copula verbs between the two languages. For example, the English-Italian equivalent copula verbs do not correspond by tenses because the specific Italian auxiliary or copula verb used depends on the subject's behavior and relationship to the object or action rather than the compound verb tense. Also, English allows for the copula verb to precede the noun/pronoun in an interrogative utterance (i.e. "Is she mad?"), while Italian does not allow for the copula to precede the noun/pronoun (i.e. "*Lei è arrabbiata*?" which translates directly to "She is mad?").

Another major dissimilarity between the two languages' grammatical morphemes is that the English rule of contraction does not apply to Italian. Italian, however, does allow for elision. Italian elision (i.e. "*gli Italiani*" changes to "*gl'Italiani*," meaning "the Italians") is different from the English contraction (i.e. "did not" changes to "didn't") in that it does not rely on the same conditions. The English contraction rules rely on the use of specific pronouns, auxiliary verbs, etc., while the Italian elision rules rely on the vowels bordering the words used, which could fall into any category of grammatical forms, including nouns, verbs, articles, prepositions, etc. Therefore, the four morphemes in the following table – uncontractible auxiliary, contractible copula, contractible auxiliary, and uncontractible copula – do not apply to Italian (for the purpose of this review) and are not analyzed in Italian, since they do not occur in the grammar of the language.

Table 3. Brown's Morphemes that Do Not Translate to Italian

7. Uncontractible Copula	Is she there?
12. Uncontractible Auxiliary	Where is he walking?
13. Contractible Copula	She is mad. (She's)
14. Contractible Auxiliary	He is walking. (He's)

Below is a table of Brown's American English grammatical morphemes and the 10 comparative Italian grammatical morphemes used in this study's analysis with the four aforementioned morphemes excluded.

Table 4. Comparison of Brown's 14 Morphemes and the Chosen Italian Morphemes

English Morpheme Types	English Example	Italian Example
Present Progressive	I am writing.	*stare* + infinitive + *-ando/-endo* *Io sto scrivendo.*
In	The woman is in the kitchen.	in, nel, nella, nello, nel', nei, negli *La donna è nella cucina.*
On	The bird is on the fence.	su, sul, sulla, sullo, sull', sulle, sui, sugli *L'uccello è sul recinto.*
Plural "s"	boys & girls	-e, -i *ragazzi (m) & ragazze (f)*
Irregular Past Tense	To run → ran To fall → fell	*Dire* (to say) → *detto* *Fare* (to do) → *fatto*
Possessive "s"	The girl's gift The boy's gift	*di* + an article (with possession) *Il regalo della ragazza (f)* *Il regalo del ragazzo (m)*
Articles	the women; the men a book; an apple	*il, lo, l', la, i, gli, le, un, una, un', uno* *le donne (f)*; *gli uomini (m)* *un libro (m)*; *una mela (f)*
Regular Past Tense	He talked.	*Avere/Essere* (to have/to be) + infinitive + *-ato/-uto/-ito* *Lui ha parlato.*
3rd Person Regular Present	She believes.	-a & -e *Lei crede.*
3rd Person Irregular	To have → has	*Finire* (to finish) → *finisce*

As previously mentioned, Brown based the AoAs for the grammatical morphemes on the first month in which the participant used the morpheme with 90% accuracy in obligatory contexts. Indeed, the 14 grammatical morphemes were chosen because they are considered obligatory and frequently used in mainstream varieties of American-English. In this way, his research team was able to pinpoint utterances in which a child is obligated to produce the morphemes and whether he/she produced or omitted the morpheme. Following Brown's

methods, the Italian grammatical morphemes chosen for this analysis were also required to be obligatory and produced frequently in the language. In Italian, some morphemes, such as the articles, can be optionally marked or not needed in some contexts. While the Italian articles are optional at times, there are strict grammar rules that dictate when an article should or should not be used. For example, articles are optionally produced in commonly used phrases, such as "in the house" ("*in casa*," instead of "*nella casa*") or "my mother" ("*mia madre*," instead of "*la mia madre*"). These commonly used phrases are finite and the optionality of the article in these cases is naturally learned by L1 speakers of Italian. In this way, researchers are still able to pinpoint when the child is obligated to produce the article and whether he/she produces or omits the article. Therefore, for the current analysis, articles are included, as well as *in* and *in* plus a definite article and *su* and *su* plus a definite article. For the other morphemes, the focus was on the Italian present progressive suffixes, plural suffixes, irregular *passato prossimo*, possessive *di*, regular *passato prossimo*, 3rd person regular *presente*, and 3rd person irregular *presente*; all of these are also obligatory and frequently used in mainstream dialects of Italian.

A Brief Explanation of the Chosen Italian Grammatical Morphemes

Present Progressive

To form the present progressive tense in Italian, one would use a conjugated form of the verb *stare*, meaning *to be*, plus the root of the infinitive of an action verb combined with an ending of either -*ando* or -*endo*. The ending of -*endo* would be assigned to infinitives ending with -*ire* or -*ere*, while the ending of -*ando* would be assigned to infinitives ending with -*are*. For example: *Io* (first person pronoun) + *sto* (1st person conjugation of *stare* meaning *to be*) + *scrivendo* (*scriv*, the root of *scrivere* meaning *to write* plus the present progressive ending -*endo*) = *"Io sto scrivendo"* (I am writing).

In

Although pronounced differently, the Italian *in* is used practically the same way in the same contexts as the English "in." The major cross-linguistic difference between the two morphemes would be the combination of an article or the lack thereof. In both languages, *in* is either used alone or with a definite or indefinite article. In English, "in" does not combine, or rather elide, with the definite (the) or indefinite (a/an) articles. For example, one can say "in town," "in a town," or "in the town." These are the variations of the use of the English "in." In Italian, however, "*in"* can combine and elide with any of the definite articles (*il, la, lo, l', le, i, or gli*) but not with the indefinite articles (*un, una, un',* or *uno*). For example, one can say "*in città*" (in town), "*in una città*" (in a town), or "*nella città*" (in the town). When comparing the use of the English and Italian *in*, the elision of *in* with definite articles is exclusive to Italian.

On

Very similar to the usage of the Italian *in*, *su*, meaning *on*, can also elide only with the definite articles and not the indefinite articles. For example, one can say "*su un tavolo*" (on a table) or "*sul tavolo*" (on the table).

Plural "s"

Similar to the English plural suffix "-s," the Italian plural suffixes -*e* and -*i* are attached to singular nouns to create plural nouns. However, the Italian plural suffixes change depending on gender (-*e* for plural feminine nouns and -*i* for plural masculine nouns). Also, the Italian adjectives, possessive pronouns, verbs, and articles must all agree in gender and/or number. For example, one could say "*gatto*" (cat), "*i gatti*" (the male cats), "*le gatte*" (the female cats), "*i miei gatti*" (my male cats), "*le mie gatte*" (my female cats), "*i miei gatti neri*" (my male, black cats), "*le mie gatte nere*" (my female, black cats), or "*le mie gatte nere mangiano*" (my female,

black cats eat). The main cross-linguistic differences between these plural suffixes are that the Italian plural suffixes *-e* and *-i* are differentiated by gender, must be added to surrounding adjectives, and must agree in gender and/or number with surrounding adjectives, articles, verbs, and possessive pronouns.

Irregular Past Tense

The English irregular past tense is characterized by verbs such "ran" and "saw" that are different when conjugated in the past tense from their roots, "run" and "see." Similarly, the Italian irregular past tense is characterized by verbs such as *fatto* (to do/make) and *bevuto* (to drink) that are different when conjugated in the past tense from their roots, *fare* and *bere*. There is no major cross-linguistic difference between the English and Italian forms of this morpheme type.

Possessive "s"

The English grammatical suffix "'s" shows possession when placed at the end of a noun. The Italian grammatical morpheme *di* or *di* combined with an article can also be used to show possession when preceding a noun. For example, one could say "*il libro di Maria*" (Maria's book) or "*il cibo della tartaruga*" (the turtle's food). The main differences between the English and Italian possessive grammatical morphemes are that the Italian *di* is placed before the noun rather than combined at the end of the noun and that *di* can be combined with an article, making the morpheme subject to number and gender agreement rules.

Articles

The definite article in English is "the," and the indefinite articles are "a" and "an." The Italian definite articles are *il, la, lo, i, le, l',* and *gli*, and the indefinite articles are *un, un', una,* and *uno*. Unlike English articles, Italian articles change according to gender and number to agree

with the nouns and adjectives the article defines. The articles also change depending on the beginning letter of the next word. The singular feminine articles are *una*, *un'*, *la* and *l'*, and the plural feminine article is *le*. The singular masculine articles are *un*, *uno*, *il*, *l'*, and *lo*, and the plural masculine articles are *i* and *gli*. The article *una* is applied for any feminine singular noun beginning with any consonant, while the article *un'* is used for feminine singular nouns beginning with any vowel. The article *la* is used for feminine singular nouns beginning with any consonant, while the article *l'* is used for feminine singular nouns beginning with any vowel. The article *le* is used for any feminine plural nouns, regardless of the beginning letter. The article *un* is used for any masculine singular noun unless it begins with "z" or "s" plus a consonant in which case *uno* is used. The article *il* is used for any masculine singular noun that begins with any consonant, while the article *l'* is also used for any masculine singular noun that begins with any vowel. The article *lo* is used for masculine singular nouns beginning with "z" or "s" plus a consonant. The article *i* is used for masculine plural nouns beginning with with any consonant, while *gli* is used for masculine plural nouns beginning with a vowel, "z," or "s" plus a consonant. There are many more Italian articles than there are in English, and there are many more rules to follow when using Italian articles, including gender and number agreement and agreeing with the first letter of the following noun.

Regular Past Tense

In English, the regular past tense is produced by adding the suffix "-ed" to the end of a verb. In Italian, the same tense is formed by conjugating the verbs *avere* (*to have*) or *essere* (*to be*) followed by the root of an infinitive verb combined with the ending -*ato*, -*ito*, or -*uto*. The regular past tense endings depend on the ending of the infinitive used: -*ato* for verbs ending in -*are*, -*ito* for verbs ending in -*ire*, and -*uto* for verbs ending in -*ere*. For example: *Io* (first person

pronoun) + *ho* (first person conjugation of *avere*, meaning *to have*) + *mangi-* (root of *mangiare* – to eat) + *-ato* (past tense ending for *-are* verbs) = *Io ho mangiato* (I ate). The major crosslinguistic difference is the addition of auxiliary verbs and different endings depending on infinitive used.

3rd Person Regular Present

In English, one would form the third person present tense by adding an "s" to the end of the verb. For example, one could say "she believes" or "he fights." Italian's third person present tense is quite similar, except that the ending must agree with the original verb ending. Therefore, a verb that has an infinitive ending in *–are* would end in *–a* in the third person present tense, while *–ire* and *–ere* verbs would end in *–e*. For example, one could say "*lei crede*" (she believes – *credere* meaning *to believe*) or "*lui mangia*" (he eats – *mangiare* meaning *to eat*).

3rd Person Irregular

Third person irregular present tense in English is characterized by conjugations of verbs like "have" being very different from the infinitive. For example, one could say, "she has a cookie." Italian is very similar with irregular third person present verbs and their exceptions to the usually predictable verb endings. For example, one could say, "*lei vede*" ("she sees" – infinitive: *vedere* – to see – regular 3rd person present) vs. "*Iui va*" ("he goes" – infinitive: *ire* – to go – irregular 3rd person present). There is no major cross-linguistic difference between the English and Italian forms of this morpheme type.

Expectations

The findings of Johnston and Slobin's (1973) similar study illuminates possible expectations for the Italian AoAs for the morphemes and MLU stages. Their study examined the acquisition of locatives (in, under, on, beside, back, between, and front) between different

languages (English, Italian, Turkish, and Serbo-Croatian). The overall findings of their study, related to the purpose of the current study, are as follows:

A child's ability to utilize locatives is affected by gender, age, and the language being learned. Girls produce more locatives than boys. Older children produce more locatives than younger children. Italian children increase usage of terms as time passes and as their age increases. Compared to English-speaking children, Italian-speaking children produce more different locatives, learn more locatives during a four-month period, learn locatives quicker and at earlier ages, can command a larger repertoire, and make less substitution errors. Both English- and Italian-speaking children acquire locatives within a predictable order. Based on these findings, one may expect the AoAs for the Italian morphemes and MLU stages to be earlier on average than the English counterparts, which may be largely due to the increased regularity of the Italian language.

The following chapter details how this study will examine the emergence of the above 10 morphosyntactic markers and Brown's (1973) MLU stages in monolingual Italian children to supply evidence to support Brown's theory that his guidelines can be applied to all languages and to assist in establishing one set of guidelines as a universal cross-linguistic measurement of language acquisition in hopes to further uncover the determinants of acquisition order.

CHAPTER 2. METHODS

CHILDES Database

The *Child Language Data Exchange System* (CHILDES) is an online corpus established in 1984 to function as a central archive for first language acquisition data (1960s – present). It includes transcripts, audio, and video in 26 languages from 130 publicly available corpora. This paper utilizes the transcripts from the six corpora listed under monolingual Italian. This sample of data was contributed by the following studies: Antelmi (1997), D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico and Carubbi (2003), Tonelli et al. (1995), Tonelli et al. (1998), Tonelli and Fabris (2005), Cipriani et al. (1989), Antinucci and Parisi (1973), Antinucci and Volterra (1978), Volterra (1972), Volterra (1976), Volterra (1984), and Klammler and Schneider (2011).

Participants

This study uses 168 anonymized transcripts (no audio or video) of 18 Italian children during free-play/conversation with a parent or examiner. Of this sample of participants, 7 are male and 11 are female. These 18 Italian children listed in the CHILDES database are represented by the following names: Rosa (*f*), Raffaelo (*m*), Cam [short for Camilla] (*f*), Martina (*f*), Marco (*m*), Viola (*f*), Guglielmo (*m*), Diana (*f*), Linda (*f*), Claudia (*f*), Federica (*f*), Davide (*m*), Delfina (*f*), Gregorio (*m*), Veronica (*f*), Francesco (*m*), Elisa (*f*), and Lorenzo (*m*).

While all the children's transcripts are longitudinal, the ages at which the children were recorded vary greatly. Overall, the children's ages span two years, from 1;4 to 3;4. For each child, the total number of transcripts provided, the number of transcripts provided for each month, and the length of the intervals between transcripts also vary. See below for a table listing these differences for each child's data.

Table 5. Breakdown of the Differences Among Total Transcripts

Child	Total Age Range of Transcripts	Number of Months Between Transcripts	Number of Transcripts for Each Month	Total Number of Transcripts
ROSA	1;7-3;3	0-1	1-2	21
RAFFAELO	1;7-2;11	0-1	1-3	17
CAM	2;2-3;4	1-2	1	7
MARTINA	1;7-2;7	0-1	1-2	13
MARCO	1;5-2;5	0	1-3	27
VIOLA	1;11-2;10	0-2	1-2	10
GUGLIELMO	2;2-2;11	0-1	1-2	9
DIANA	1;8-2;6	1-3	1-2	9
LINDA	1;4-2;0	3	1	3
CLAUDIA	1;11-2;6	0-5	1	3
FEDERICA	1;5-2;0	1-4	1	3
DAVIDE	1;6-2;0	5	1	2
DELFINA	1;8-2;1	0-1	1	5
GREGORIO	1;7-2;0	0-1	1-2	8
VERONICA	1;7-2;0	0-3	1	3
FRANCESCO	1;4-2;1	0-1	1-4	18
ELISA	1;10-2;1	0-1	2-4	8
LORENZO	1;8	0	2	2

Length of Transcripts

The lengths of the transcripts vary between children and between months of age. Every child utterance within the transcripts was included in the data analysis when measuring MLU and frequency of grammatical morpheme use. The reasoning behind this decision to include all utterances and not just the first 100 for each transcript (as is typically done for language samples) can be supported by Brown's own opinion of Blount's (1969) study on Luo (mentioned above). On this topic, Brown states that grammatical morphemes vary widely in frequency, and a small sample will likely not include the less frequently used morphemes. Therefore, one may conclude that the more data to be analyzed in this endeavor, the lower the probability of omitting any available usage of grammatical morphemes. See below for a table listing the average length of each child's transcripts, measured by only the child's number of utterances.

Table 6. Average Length of Transcripts in Utterances for Each Child

Child	Average Length of Transcripts (in Child Utterances)
ROSA	347
RAFFAELO	221
CAM	270
MARTINA	325
MARCO	362
VIOLA	259
GUGLIELMO	245
DIANA	243
LINDA	250
CLAUDIA	226
FEDERICA	145
DAVIDE	217
DELFINA	88
GREGORIO	140
VERONICA	192
FRANCESCO	114
ELISA	136
LORENZO	400

Dialects

Although the specific dialects are not given for each child, the locations of the recordings may be helpful in determining the probable dialects of Italian included in this sample. However, not all transcripts list the location of the recording, yet it may be inferred from the location of the university that employs the contributing researcher. The locations, both given and inferred, include: Naples, Rome, Calambrone (Pisa), Milan, and Trieste. See below for a table of the cities in which the recordings for each child took place and the study (or studies) that contributed the child's transcripts.

Table 7. City of Recording and Contributing Study/Studies of Each Child's Data

Child	City	Contributing Study or Studies
ROSA	Calambrone (Pisa)	Cipriani et al. (1989)
RAFFAELO	Calambrone (Pisa)	Cipriani et al. (1989)
CAM	Milan [inferred]	Antelmi (1997)
MARTINA	Calambrone (Pisa)	Cipriani et al. (1989)
MARCO	Trieste [inferred]	Tonelli et al. (1995), Tonelli et al. (1998), Tonelli & Fabris (2005)
VIOLA	Calambrone (Pisa)	Cipriani et al. (1989)
GUGLIELMO	Calambrone (Pisa)	Cipriani et al. (1989)
DIANA	Calambrone (Pisa)	Cipriani et al. (1989)
LINDA	Milan [inferred]	D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico & Carubbi (2003)
CLAUDIA	Milan [inferred]	D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico & Carubbi (2003)
FEDERICA	Milan [inferred]	D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico & Carubbi (2003)
DAVIDE	Milan [inferred]	D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico & Carubbi (2003)
DELFINA	Naples	Klammler & Schneider (2011)
GREGORIO	Trieste [inferred]	Tonelli et al. (1995), Tonelli et al. (1998), Tonelli & Fabris (2005)
VERONICA	Milan [inferred]	D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico & Carubbi (2003)
FRANCESCO	Rome	Antinucci & Parisi (1973), Antinucci & Volterra (1978), Volterra (1972), Volterra (1976), Volterra (1984)
ELISA	Trieste [inferred]	Tonelli et al. (1995), Tonelli et al. (1998), Tonelli & Fabris (2005)
LORENZO	Milan [inferred]	D'Odorico et al. (2001), Salerni et al. (2007), D'Odorico & Carubbi (2003)

Data Analysis

The analysis for this study included frequency counts for the aforementioned morphemes within each transcript for each child participant. The frequency counts were conducted through the TalkBank DB website and CHILDES website. On TalkBank DB, the researcher ran the following queries: Age – 0-50 months; Collection – childes > Romance > Italian > …. The researcher then used the Visualizations tab and entered the morphemes into the search bar for the

Explore Word Frequency by Age of Target_Child function. Both the Plot and Table options give frequency data for the morpheme separated by months of age. On the CHILDES website, the researcher ran the command line function *freq* for each transcript, combined with the code *+t*CHI,* which provides the frequency count for every word the child produced within that transcript. The frequency of use for each morpheme was calculated for each child for each transcript. These frequencies were summed and then divided by number of children in the age cohort to calculate an average AoA. This process was repeated for all 10 morpheme types.

An accuracy check was completed for each month in which a morpheme was first acquired. The researcher checked each use of the morpheme for accuracy and obligation. If the accuracy checks yielded different numbers than the previous frequency check, the results were changed accordingly. All other transcripts following the first month of use for a morpheme were not checked for accuracy or obligation. For these transcripts, the data relies on the accuracy of the coding functions offered by CHILDES and TalkBank DB. This analysis step supports Brown's own guidelines for mastery of a grammatical morpheme – the first month in which a child uses the morpheme with 90% accuracy in obligatory contexts. Only the accurate and obligatory productions of each morpheme, within the first month of use, were included when calculating the average AoAs.

Also included in the analysis was the MLU for each transcript. The MLU in words was found using the command line function *mlu,* combined with the code *+t*CHI -t%mor*, on the CHILDES website. By doing so, the site provided the child's number of utterances and words in the transcript and the derived MLU-w (MLU = # of words ÷ # of utterances). Similar to the frequency counts, once the MLU was found across child, age in months, and transcript, the MLUs were averaged to find the approximate AoA for each of Brown's Five Stages of Language

Development. Lastly, the discovered Italian AoAs for the 10 morphemes and MLU stages were compared to Brown's own AoAs found for English, and the similarities and differences between the two were discussed.

CHAPTER 3. RESULTS

The results of the frequency and accuracy counts are depicted in the following figures for the 10 morphemes and MLU stages across each of the 168 transcripts for all 18 children.

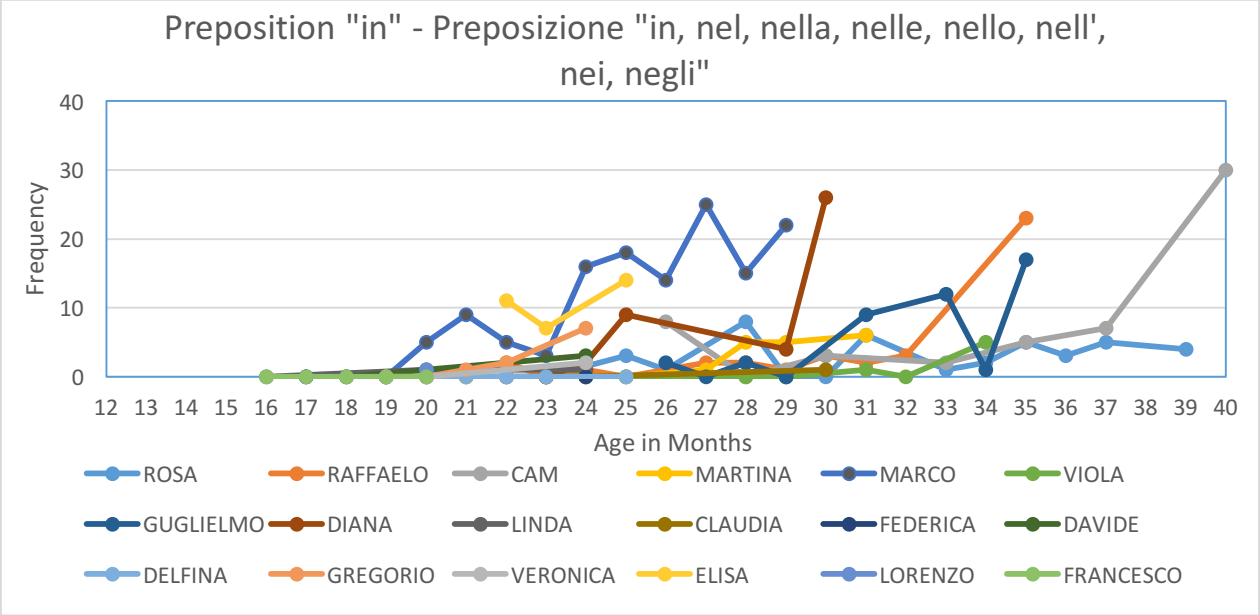

Figure 1. Frequency Results for Preposition “in” Across Age in Months for All 18 Children

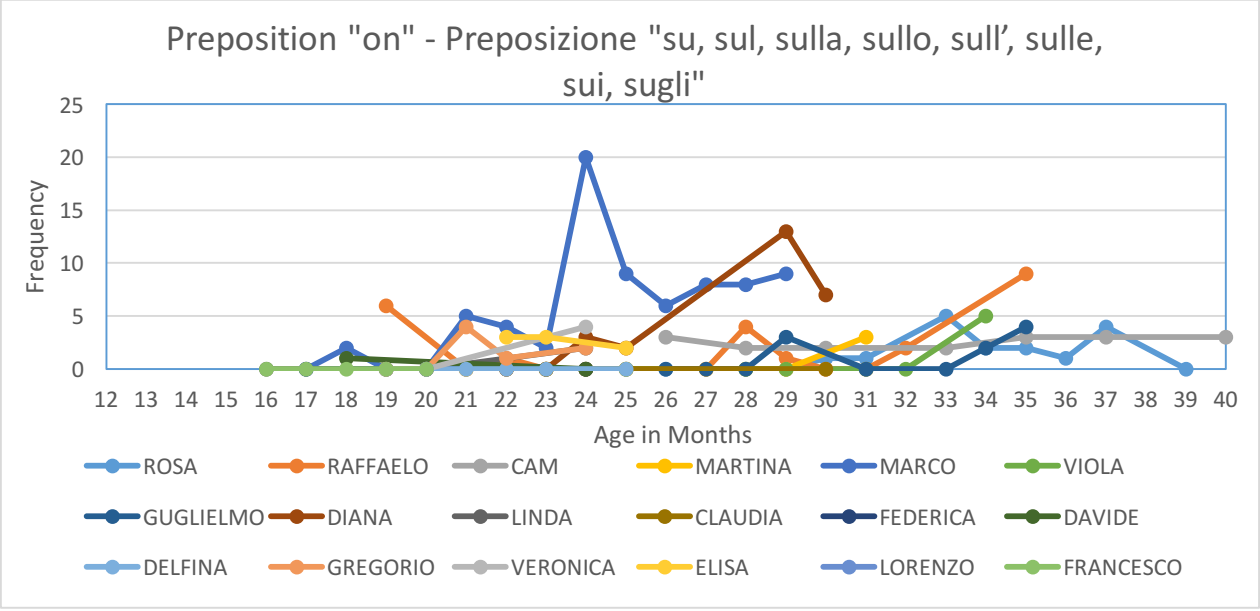

Figure 2. Frequency Results for Preposition “su” Across Age in Months for All 18 Children

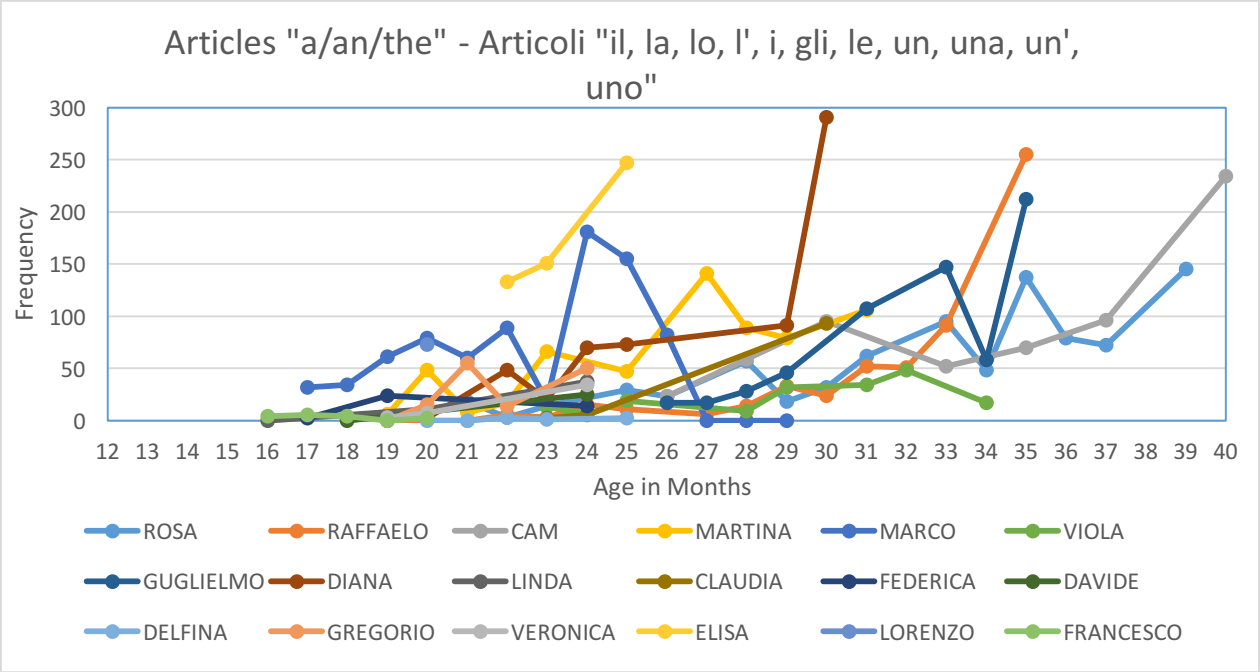

Figure 3. Frequency Results for Articles Across Age in Months for All 18 Children

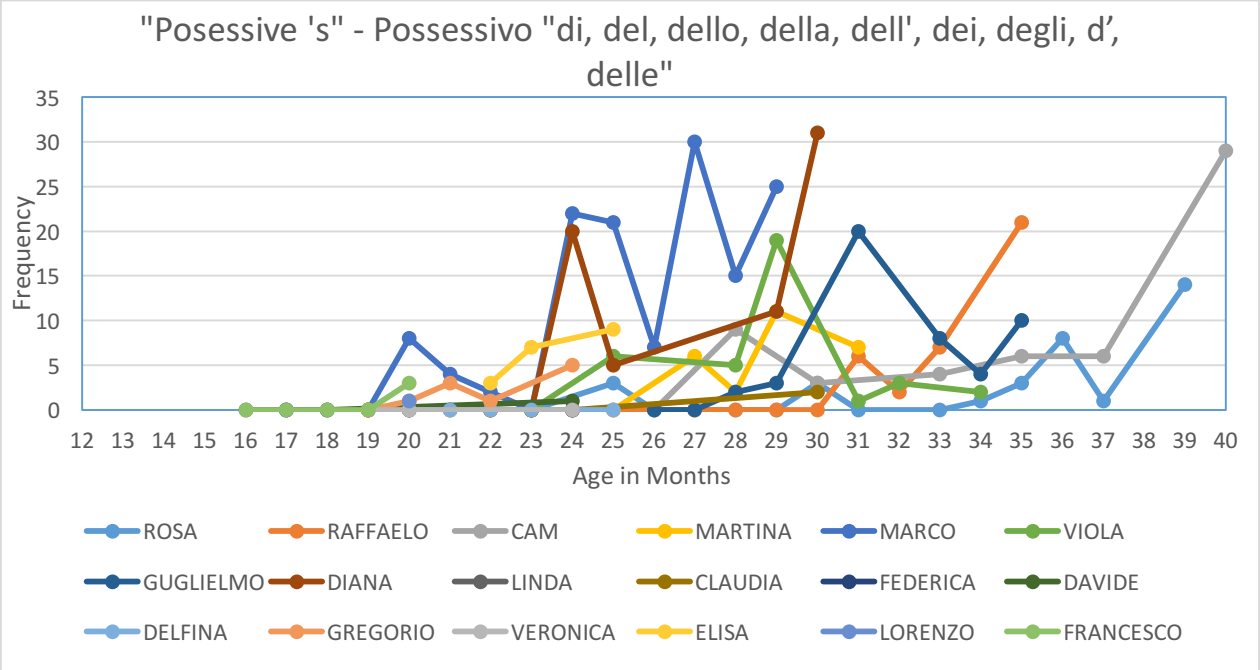

Figure 4. Frequency Results for Possessive “di” Across Age in Months for All 18 Children

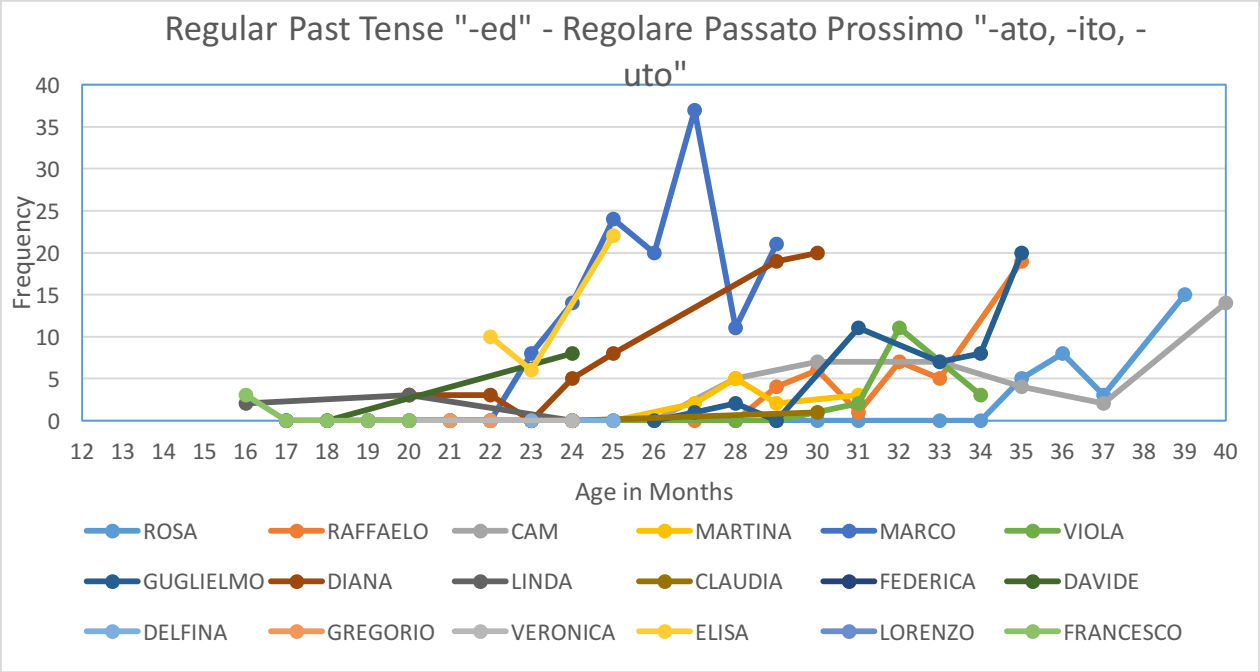

Figure 5. Frequency Results for Regular Past Tense Across Age in Months for All 18 Children

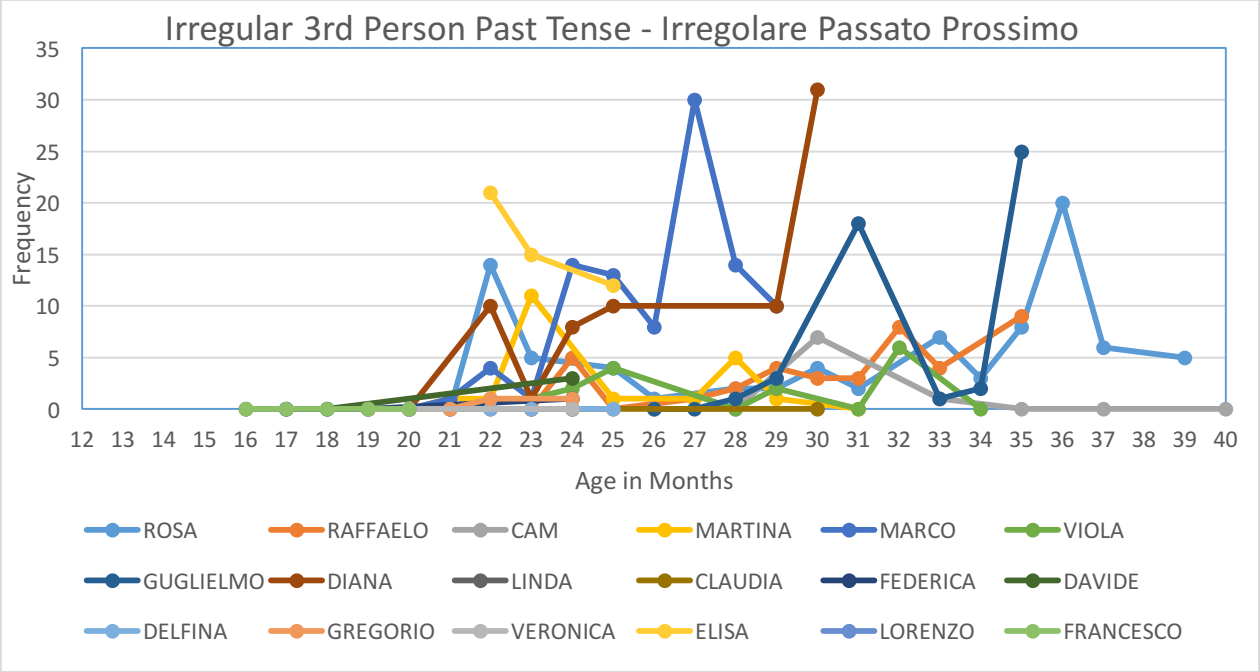

Figure 6. Frequency Results for Irregular Past Tense Across Age in Months for All 18 Children

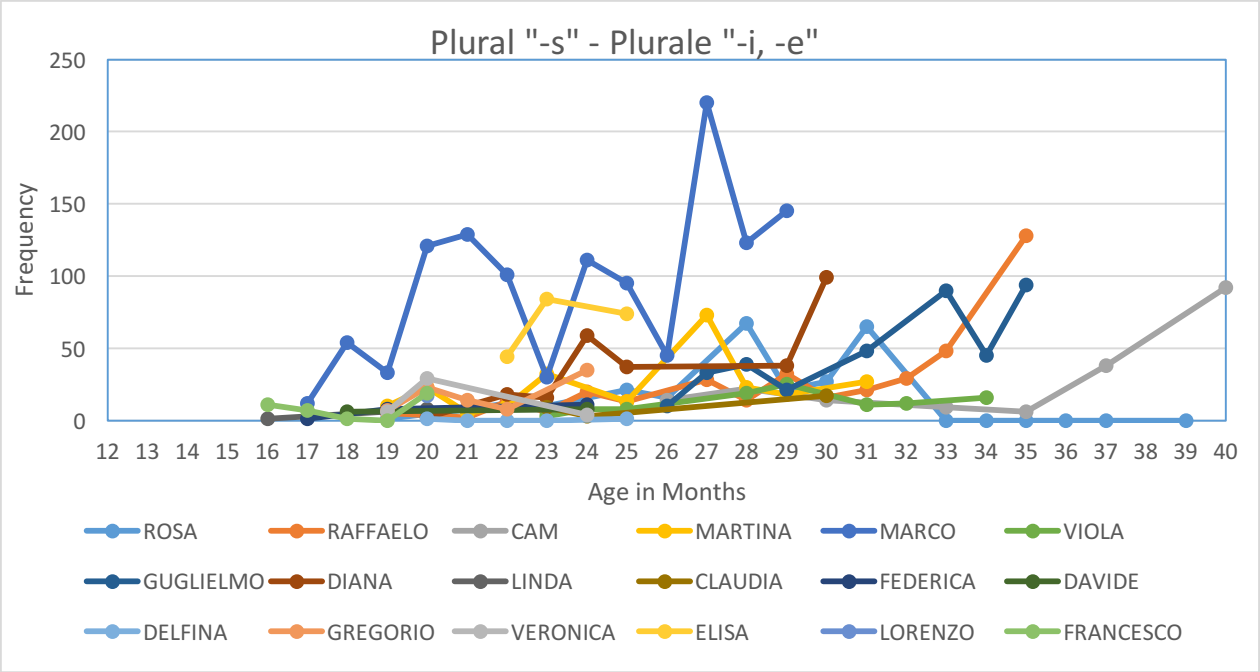

Figure 7. Frequency Results for Plurals Across Age in Months for All 18 Children

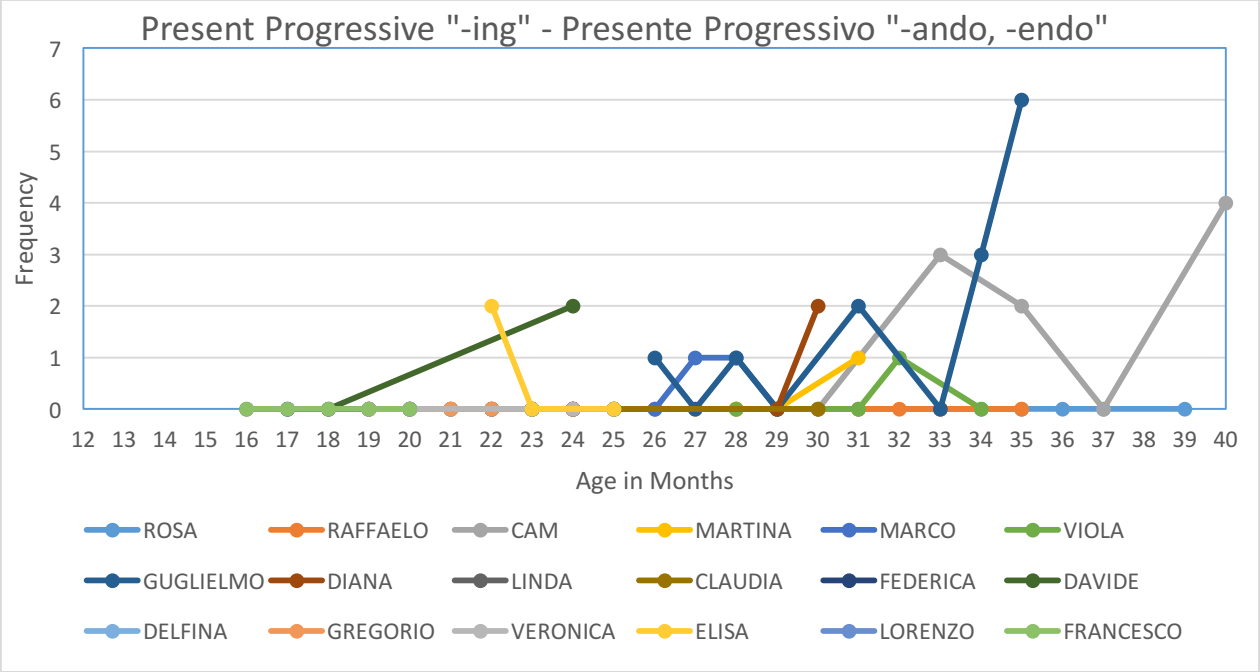

Figure 8. Frequency Results for Present Progressive Across Age in Months for All 18 Children

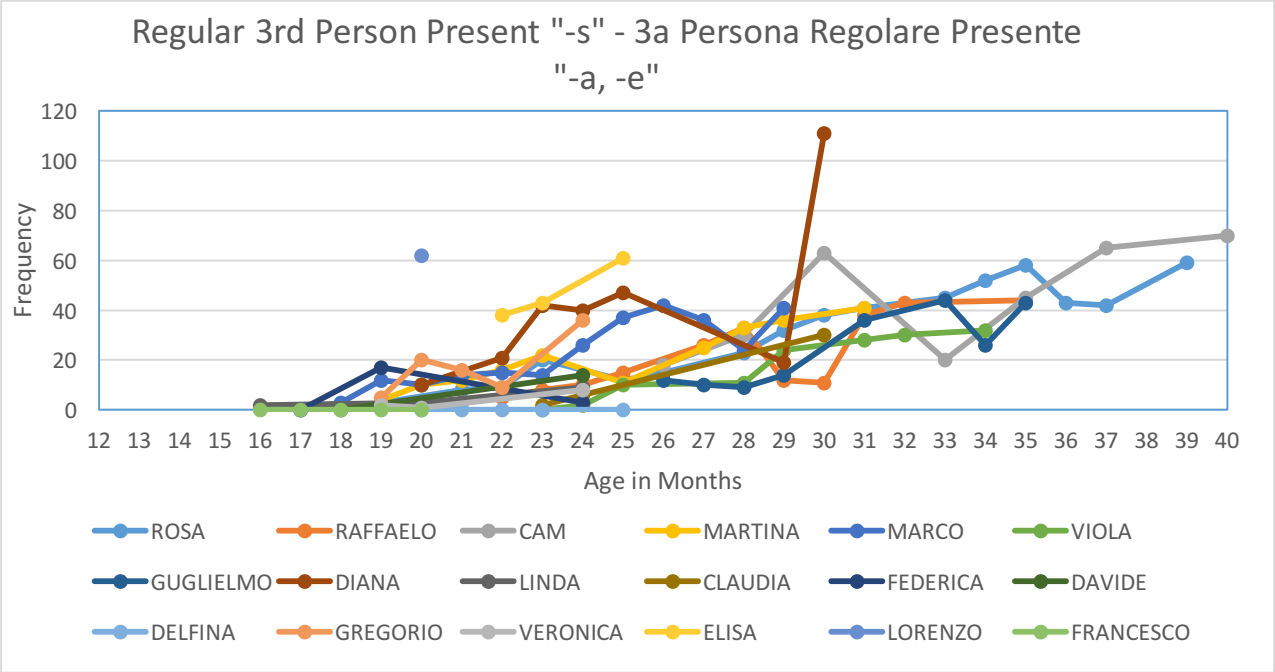

Figure 9. Frequency Results for Regular Present Across Age in Months for All 18 Children

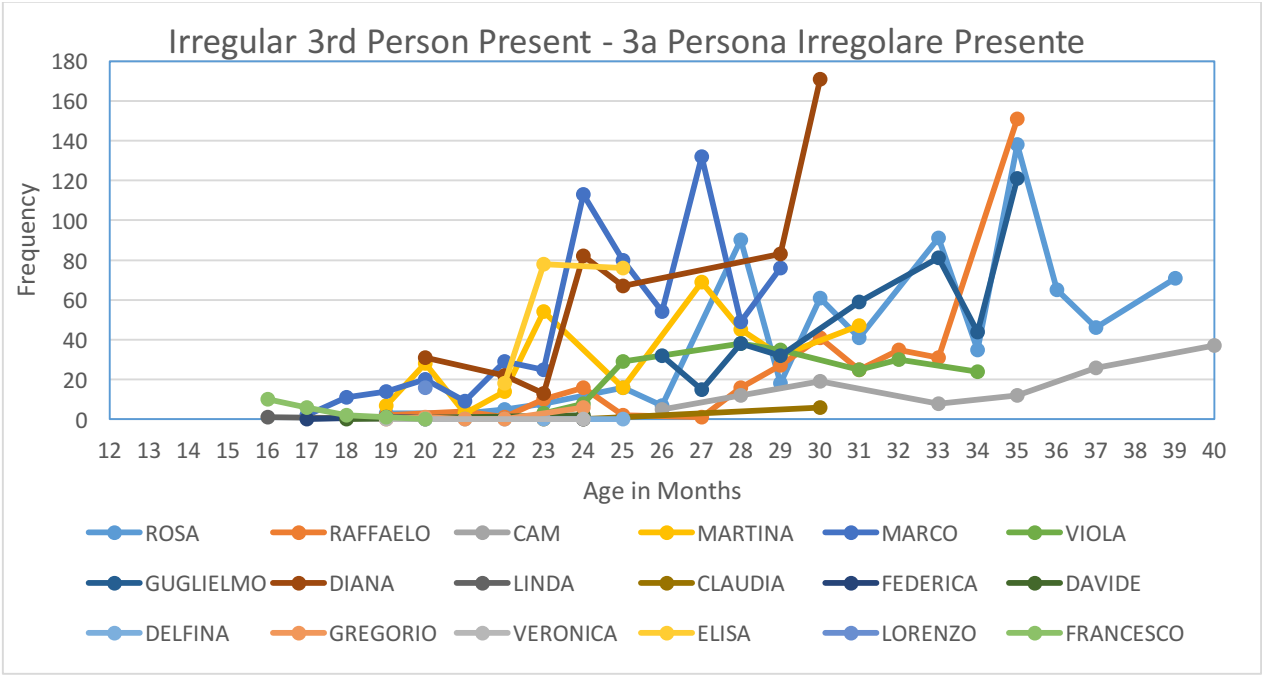

Figure 10. Frequency Results for Irregular Present Across Age in Months for All 18 Children

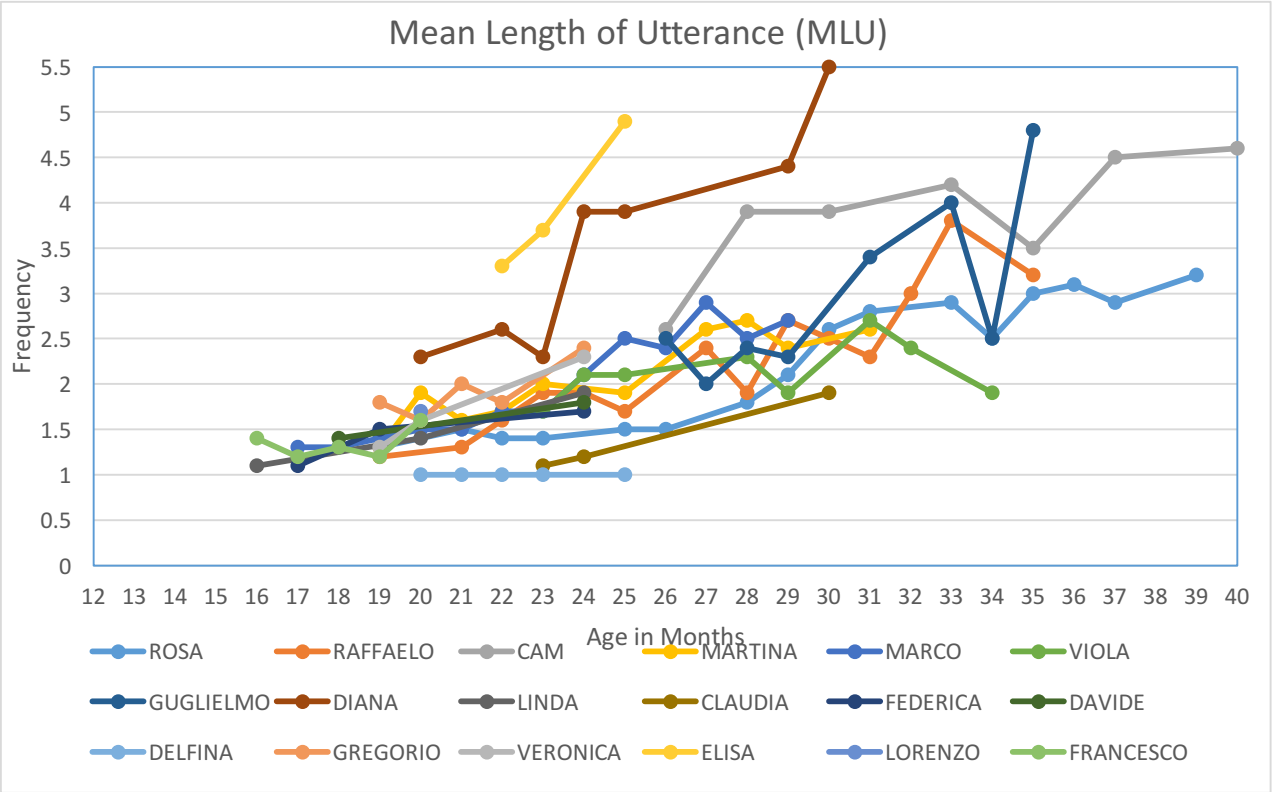

Figure 11. Frequency Results for MLU Across Age in Months for All 18 Children

The following figure is taken from CHILDES's TalkBank DB with the following queries: Age: 0-50 months and Collection: childes > Romance > Italian > [select all]. The Visualization Table used was "Explore Target_Child Population Properties" with "Mean word Length of Utterances by age (MLUw)" selected. This figure depicts the average MLU monthly progression across all children and transcripts.

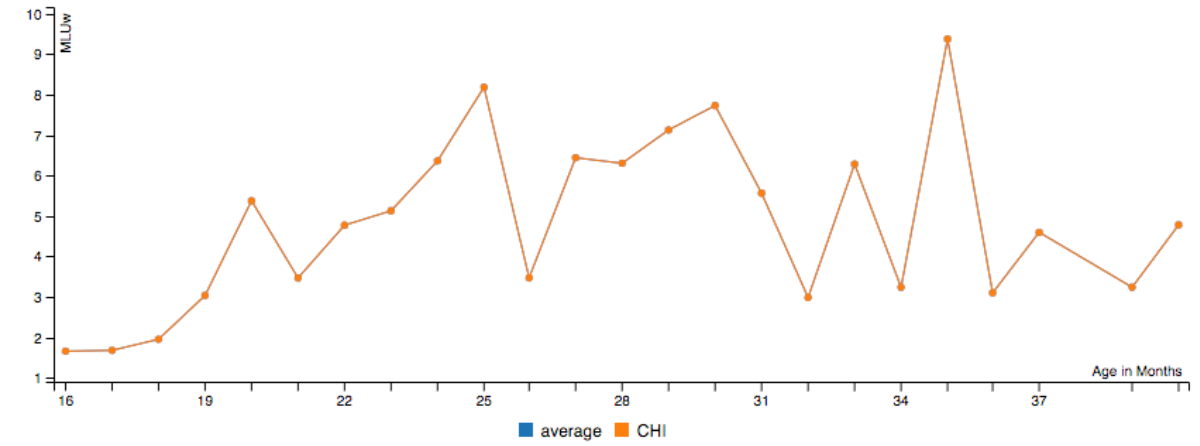

Figure 12. Average Mean Length of Utterance Progression Across All Children and Transcripts

The following figures are taken from CHILDES's TalkBank DB with the following queries: Age: 0-50 months and Collection: childes > Romance > Italian > [select all]. The Visualization Table used was "Explore Word Frequency by Age of Target_Child" with the target morphemes entered into the search textbox separated by commas. These figures depict the differences within a morpheme type. These figures focus on the articles, preposition *in*, and preposition *su*.

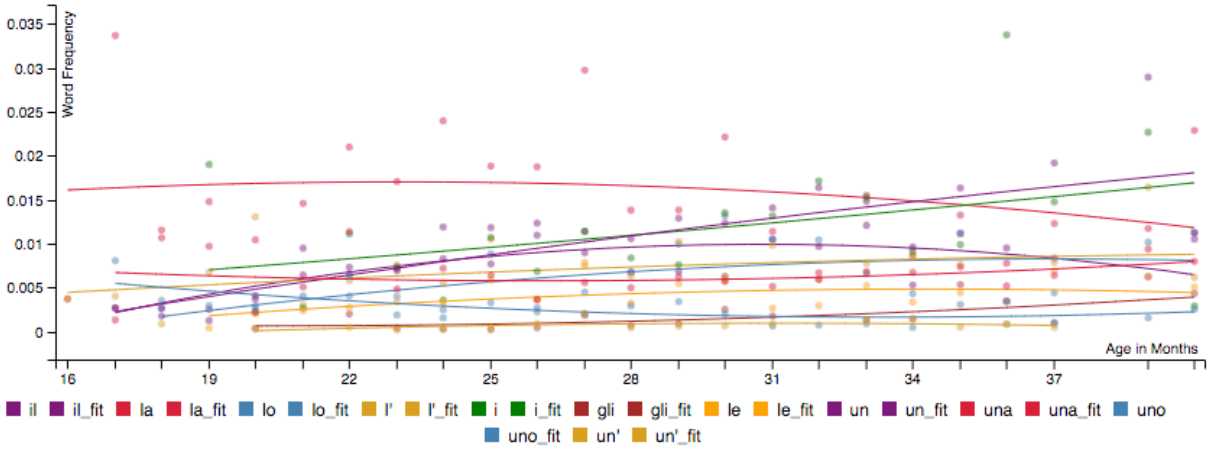

Figure 13. Articoli: Intra-Morpheme Difference Across All Children and Transcripts

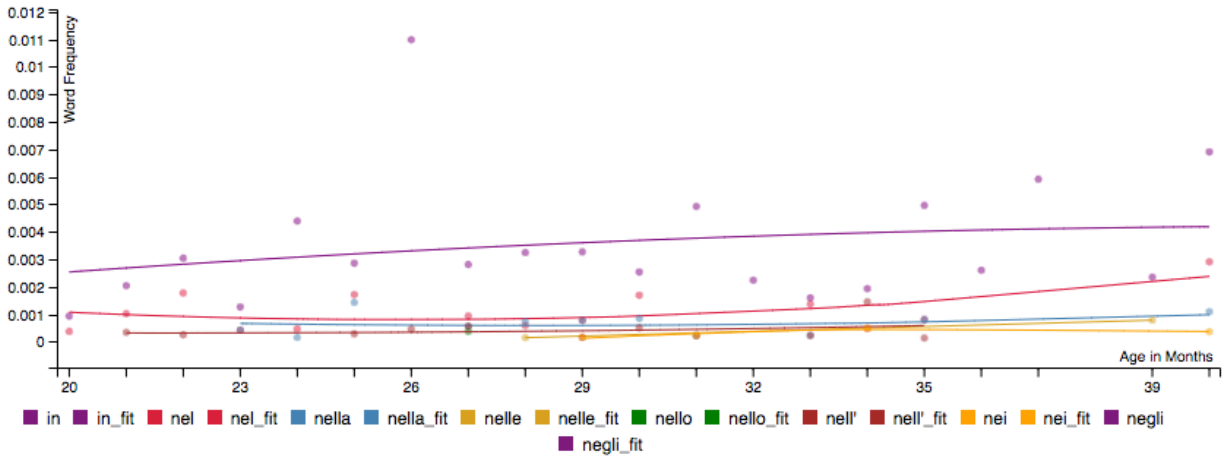

Figure 14. Preposizione “in”: Intra-Morpheme Difference Across All Children and Transcripts

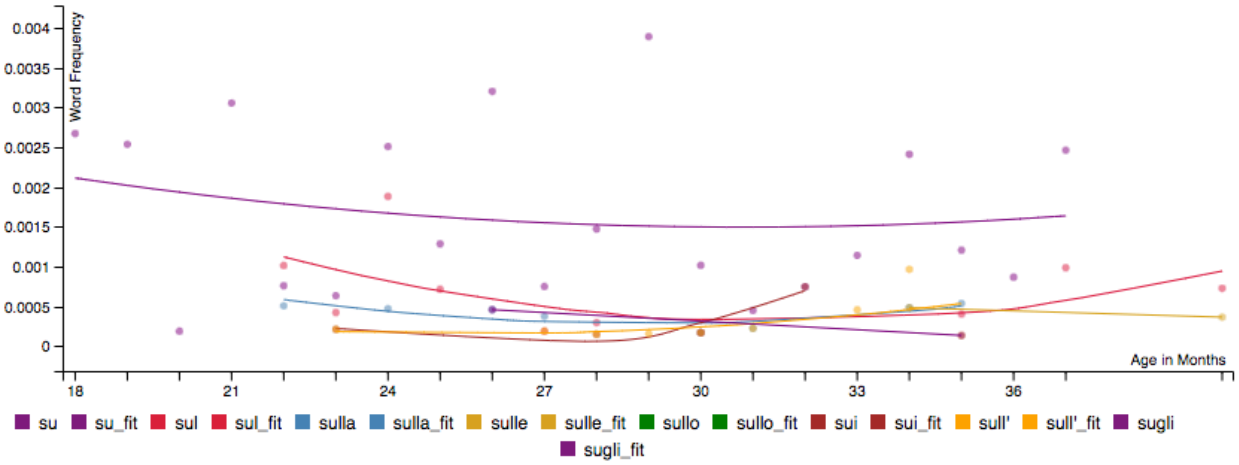

Figure 15. Preposizione “su”: Intra-Morpheme Difference Across All Children and Transcripts

The following tables synthesize the results to identify the average age of acquisition in months for each of the 10 morphemes and for each MLU stage. The left of the table depicts Roger Brown’s (1973) American English version of the morphemes and MLU stages with their AoAs, while the right side depicts the 10 Italian morphemes, the Italian MLU stages, and the identified AoAs for each.

Table 8. English Morpheme AoAs Compared to Italian Morpheme AoAs

Brown's Morpheme Types	English Example	Age of Mastery (mos.)	Italian Example	Age of Mastery (mos.)
1. Present Progressive	I am writing.	19-28	*stare* + infinitive + *-ando/-endo* *Io sto scrivendo.*	26 22-40+
2. In	The woman is in the kitchen.	27-30	in, nel, nella, nello, nel' *La donna è nella cucina.*	24 20-34
3. On	The bird is on the fence.	27-30	su, sul, sulla, sullo, sul' *L'uccello è sul recinto.*	25 18-34
4. Plural "s"	boys; girls	24-30	-e, -i *ragazzi (m) & ragazze (f)*	20 16-26
5. Irregular Past Tense	To run → ran To fall → fell	25-46	*Dire* (to say) → *detto* *Fare* (to do) → *fatto*	24 16-31
6. Possessive "s"	The girl's gift; The boy's gift	26-40	*di* + an article (with possession) *Il regalo della ragazza (f)* *Il regalo del ragazzo (m)*	25 20-31
7. Uncontractible Copula	Is she there?	26-39	Not Applicable	N/A
8. Articles	the women; the men; a book; an apple	28-46	*il, lo, l', la, i, gli, le, un, una, un', uno* *le donne (f)*; *gli uomini (m)* *un libro (m)*; *una stella (f)*	21 16-26
9. Regular Past Tense	He talked.	26-46	*Avere/Essere* (to have/to be) + infinitive + *-ato/-uto/-ito* *Lui ha parlato.*	25 16-35
10. 3rd Person Regular Present	She believes.	26-46	-a & -e *Lei crede.*	21 16-26
11. 3rd Person Irregular	To have → has	28-50	*Finire* (to finish) → *finisce*	22 17-31
12. Uncontractible Auxiliary	Where is he walking?	29-48	Not Applicable	N/A
13. Contractible Copula	She is mad. (She's)	29-49	Not Applicable	N/A
14. Contractible Auxiliary	He is walking. (He's)	30-50	Not Applicable	N/A

Table 9. English Morpheme AoAs Compared to Italian Morpheme AoAs

Brown's Stages of Language Development	MLU	English AoAs (mos.)	Italian AoAs (mos.)
I	1.0-2.0	12-26	12-20
II	2.0-2.5	27- 30	21-24
III	2.5-3.0	31-34	25-28
IV	3.0-3.75	35-40	29-34
V	3.75-4.5	41-46	35-40
V+	4.5+	47+	40+

The age of acquisition was derived by identifying and averaging the first month in which each child "acquired" the morpheme/MLU stage. As previously mentioned, the "acquisition" of a morpheme or MLU stage for the purpose of this study relies on the following situations: the child produces the morpheme at least once accurately with obligation within that month of age.

CHAPTER 4. DISCUSSION

In this chapter, the above figures and tables will be discussed in terms of similarities and differences between the Italian and English AoAs of the morphemes and MLU stages. This report will also discuss the considerations that may affect the outcomes of the data, including the data duration, mastery criteria, transcript lengths, dialectal differences, MLU progression, optional stage, and intra-morpheme measures.

Similarities and Differences

As seen in Tables 8. and 9., the AoAs for the Italian and English morphemes and MLU stages share some similarities and differences. In review, the Italian AoAs for the 10 morphemes were derived by identifying and averaging the first month in which each child produced the morpheme at least once accurately with obligation within that month of age. All of the children's monthly MLUs were averaged to identify the AoAs for each MLU Stage. Overall, the AoAs for both follow a similar path; however, there are some deviations in the averages, beginnings, endings, and durations of the acquisition periods for each. For the Present Progressive, the Italian AoAs begin and end later and include a wider period of time, with the average falling in the later months. For the morphemes *in* and *su*, the average Italian AoAs begin much earlier, yet they also end later and include a wider period of time. For Plurals, Irregular Past Tense, Possessives, Articles, Regular Past Tense, 3rd Person Regular Present, and 3rd Person Irregular Present, the Italian AoAs begin and end earlier, with much earlier averages across the board. The Italian AoAs for the MLU Stages generally begin and end earlier than the English AoAs.

Considerations

Age Range

It is important to note that the Italian participants' overall data did not exceed 40 months of age. Therefore, there is an inherent difference between the English and Italian AoAs in this regard. The Italian AoAs offer more information for the beginning of the period of acquisition for each morpheme or MLU Stage than for the conclusion of each period of acquisition.

Mastery Criteria

As previously mentioned, the mastery criteria for this study is founded on Brown's (1973) mastery criteria. However, due to the difference in the data used, this study's mastery criterion is slightly different. While the existing data from CHILDES is indeed longitudinal, not all of the participants' transcripts include each consecutive month as Brown's (1973) study did. Therefore, this study's mastery criterion identifies the month of mastery as the first month in which a child uses the morpheme at least once with 100% accuracy in obligatory context(s). For this reason, the differences in morpheme acquisition times across different children may be affected by a slightly different mastery criterion but cannot be confirmed.

Transcript Lengths

As seen in Table 6., the length of transcripts varies greatly between participants. In Brown's (1973) study, each monthly transcript for each child included an average of 713 utterances. This study's average lengths of transcripts for each participant range between 88 and 400, with 232 utterances being the average of all 18 participants. For this reason, the differences in morpheme acquisition times across different children may be affected by differences in the average lengths of transcript between participants and between this study and Brown's (1973) study but cannot be confirmed.

Dialectal Differences

Different dialects across the different regions of Italy may display different emphasis in their unique way of speaking. This difference in emphasis may cause a difference in the morphemes used across similar children of differing dialects. For example, some dialects may place a special emphasis on the past tense, which in turn affects the form of past tense used (e.g., *il passato prossimo* vs. *passato remoto*) and its frequency. Following this example, when stating the same meaningful utterance, one child may use the *passato prossimo* (perfect past tense), while another child may use *passato remoto* (remote past tense). The first child's use of *passato prossimo* would be counted as either a regular or irregular past tense marker, while the second child's use of *passato remoto* would not be counted according to Brown's chosen morphemes. Therefore, since the dialects for each of the 18 children may only be inferred, some of the differences in morpheme acquisition times across different children may be affected by dialectal differences but cannot be confirmed.

MLU Progression

The average progression of MLU for the Italian participants is enhanced compared to the English MLU norms. For example, Stage I occurs between 12 and 26 months and entails an MLU of 1.0-2.0 words. In the above graph, the average MLU for 12 to 26 months spans from 1.6 to 8.1 words. Stage II (27-30 months; MLU: 2.0-2.5) spans 6.3 to 7.7 words. Stage III (31-34 months; MLU: 2.5-3.0) spans 2.9 to 6.2 words. Stage IV (35-40 months; MLU: 3.5-4.0) spans 3.0 to 9.3 words.

Optional Stage

In a First Language (1973), Brown discusses the "Optional Stage" that occurs with children primarily in Stage I with major constituents and in Stage II with grammatical morphemes. In

Stage II, grammatical morphemes appear as optional for children, meaning a child may use a certain morpheme only some of the time rather than in every obligatory case. For example, a child may say the utterance, "Mommy's sock," sometimes but say the utterance, "Mommy sock," other times. Brown's research supports the occurrence of this phenomenon in children's acquisition of American English around Stage II (27-30 months). This study's findings also support the occurrence of this phenomenon in children's acquisition of Italian at the end of Stage II, which can be seen clearly in Figure 12.'s dip in MLU after 25 months. It may be surmised that this brief decrease in MLU also coincides with the brief decreases in each morpheme's frequency of use that occur throughout Figures 1.-10. near that same period of time. This "optional stage" occurs at an earlier time for the Italian-speaking participants, which is in line with the above findings of Italian's, on average, earlier AoAs for grammatical morphemes and MLU stages.

Intra-morpheme Measures

The frequency differences between the specific morphemes within one morpheme type were analyzed for the following: articles (*il, la, lo, l', i, gli, le, un, una, uno, un'*), preposition "in" (*in, nel, nella, nelle, nello, nell', nei, negli*), and preposition "on" (*su, sul, sulla, sulle, sullo, sui, sull', sugli*). By analyzing these intra-morpheme measures, which specific morphemes a child should be expected to acquire first and which to target earlier in speech therapy can be better understood.

As seen in Figures 13.-15., the simpler, earlier acquired definite articles appear to be *il*, *la*, and *l'*, while the more complicated, later acquired articles appear to include *gli, le, i,* and *lo.* The indefinite articles follow a similar path, with *un*, *una*, and *uno* occurring first with *un'* occurring later. Additionally, the simpler morphemes *su* and *in* were acquired, on average, earlier than the more complicated versions elided with the articles. The next acquired morphemes are *su*

and *in* elided with the definite articles *il*, *la,* and *l'*. Therefore, SLPs should *target il, la, l', un, una, uno, su,* and *in* earlier and target *gli, le, i, lo, un', sul, sulla, sul', nel, nella,* and *nell'* later, followed by *su* and *in* elided with the rest of the definite articles.

Conclusions

In review, the purpose of this report is to examine the emergence of morphosyntactic markers comparable to Brown's (1973) established guidelines in children acquiring Italian as their primary language. By doing so, the findings of this paper should 1) supply evidence to support Brown's theory that his guidelines can be applied to all languages and 2) assist in establishing one set of guidelines as a universal cross-linguistic measurement of language acquisition in hopes to further uncover the determinants of acquisition order.

First, this report does add support to Brown's claim that his guidelines can be applied to all languages in that all morphemes were acquired in roughly the same order and stages of language acquisition in Italian as Brown's (1973) study reported for his English-speaking participants. Also, the MLU stages occurred in the same order with only a few deviations in timing. For example, on average, the Italian-speaking participants acquired the language quicker than the English-speaking participants, largely due to the greater regularity of the Italian language (i.e., obligatory agreement with gender and number of the surrounding nouns, adjectives, verbs, etc.).

Next, this report does assist in establishing a universal, language acquisition measurement. Further research should seek to apply the foundational elements of Brown's language acquisition guidelines to other languages of different roots in order to increase the ability of linguistic researchers and SLPs to compare children's language acquisition across different languages. In doing so, linguistic researchers would thus be able to further decipher the

underlying determinants of language acquisition order, and SLPs and linguistic researchers could more readily compare/contrast language acquisition milestones across languages, compare/contrast the effect of targeting certain language goals at certain ages across languages, and increase the accuracy/carryover of child language assessments across languages other than English.

In conclusion, the findings of this report support the application of Brown's (1973) language acquisition measurement to languages other than English and calls for further research in this topic to minimize the gaps in knowledge between accurate, cross-linguistic comparison of children's first language acquisition.

APPENDIX. IRB FORM

ACTION ON EXEMPTION APPROVAL REQUEST

Institutional Review Board
Dr. Dennis Landin, Chair
130 David Boyd Hall
Baton Rouge, LA 70803
P: 225.578.8692
F: 225.578.5983
irb@lsu.edu
lsu.edu/research

TO: Marie Laiche
Communication Sciences and Disorders

FROM: Dennis Landin
Chair, Institutional Review Board

DATE: March 17, 2020

RE: **IRB#** E12202

TITLE: Italian Morphosyntax Study

New Protocol/Modification/Continuation: New Protocol

Review Date: 3/17/2020

Approved X **Disapproved**

Approval Date: 3/17/2020 **Approval Expiration Date:** 3/16/2023

Exemption Category/Paragraph: 4a,b

Signed Consent Waived?: N/A

Re-review frequency: Three Years

LSU Proposal Number (if applicable):

By: Dennis Landin, Chairman DLandin

PRINCIPAL INVESTIGATOR: PLEASE READ THE FOLLOWING –
Continuing approval is CONDITIONAL on:

1. Adherence to the approved protocol, familiarity with, and adherence to the ethical standards of the Belmont Report, and LSU's Assurance of Compliance with DHHS regulations for the protection of human subjects*
2. Prior approval of a change in protocol, including revision of the consent documents or an increase in the number of subjects over that approved.
3. Obtaining renewed approval (or submittal of a termination report), prior to the approval expiration date, upon request by the IRB office (irrespective of when the project actually begins); notification of project termination.
4. Retention of documentation of informed consent and study records for at least 3 years after the study ends.
5. Continuing attention to the physical and psychological well-being and informed consent of the individual participants, including notification of new information that might affect consent.
6. A prompt report to the IRB of any adverse event affecting a participant potentially arising from the study.
7. Notification of the IRB of a serious compliance failure.
8. **SPECIAL NOTE: When emailing more than one recipient, make sure you use bcc. Approvals will automatically be closed by the IRB on the expiration date unless the PI requests a continuation.**

* *All investigators and support staff have access to copies of the Belmont Report, LSU's Assurance with DHHS, DHHS (45 CFR 46) and FDA regulations governing use of human subjects, and other relevant documents in print in this office or on our World Wide Web site at http://www.lsu.edu/irb*

REFERENCES

Allen, S. E., & Crago, M. B. (1992). First language acquisition of Inuktitut. In *Inuit studies occasional papers 4: Proceedings of the seventh Inuit studies conference*, 273-281.

Antelmi, D. (1997). La prima grammatica dell'italiano. Indagine longitudinale sull'acquisizione della morfosintassi italiana," ed. Il Mulino, Bologna.

Antelmi, D., & Morlacchi, A. (2005). L'interpretazione del linguaggio figurato nel ritardo mentale. Rassegna italiana di linguistica applicata, 37(2), 355-380.

Antinucci, F., & Parisi, D. (1973). Early language acquisition: A model and some data. In C. Ferguson & D. Slobin (Eds.), *Studies in child language development.* New York: Holt.

Antinucci, F., & Volterra, V. (1978). Lo sviluppo della negazione nel linguaggio infantile: Uno studio pragmatico. In L. Camaioni (Ed.), *Sviluppo del linguaggio e interazione sociale.* Bologna: Il Mulino.

Arlman-Rupp, A. J. L., Haan, D. V. N. D., & Sandt-Koenderman, M. V. D. (1976). Brown's early stages: some evidence from Dutch. *Journal of Child Language*, 3(2), 267–274.

Balason, D. V., & Dollaghan, C. A. (2002). Grammatical morpheme production in 4-year-old children. *Journal of Speech, Language, and Hearing Research,* 45(5), 961-9.

Belletti, A., & Guasti, M. T. (2015). *The acquisition of Italian: morphosyntax and its interfaces in different modes of acquisition*. Amsterdam: John Benjamins Publishing Co.

Blount, B. G. (1969). *Acquisition of language by Luo Children*. Berkeley, Calif.

Bowerman, M. (1973). Early syntactic development: A cross-linguistic study with special reference to Finnish. *Cambridge Studies in Linguistics*, 11.

Brown, R. (1973). *A first language: The early stages*. Cambridge, Mass: Harvard Univ. Press.

Cipriani, P., Pfanner, P., Chilosi, A., Cittadoni, L., Ciuti, A., Maccari, A., Pantano, N., Pfanner, L., Poli, P., Sarno, S., Bottari, P., Cappelli, G., Colombo, C., & Veneziano, E. (1989). Protocolli diagnostici e terapeutici nello sviluppo e nella patologia del linguaggio (1/84 Italian Ministry of Health): Stella Maris Foundation.

D'Odorico, L., Carubbi, S. (2003). Prosodic characteristics of early multi-word utterances in Italian Children. *First Language, 23*(1), 97-116.

D'Odorico, L., Carubbi, S., Salerni, N., Calvo, V. (2001). Vocabulary development in Italian children: a longitudinal evaluation of quantitative and qualitative aspects. *Journal of Child Language, 28*(2), 351-372.

James, S. L., & Khan, L. M. L. (1982). Grammatical morpheme acquisition: An approximately invariant order? *Journal of Psycholinguistic Research,* 11(4), 381-388.

Johnston, R. & Slobin, D. (1979). The development of locative expressions in English, Italian, Serbo-Croatian and Turkish. *Journal of Child Language*, 6(3), 529–545.

Kellogg, Michael (2021). "Italian-English Dictionary." *WordReference.com LLC - Online Translation Dictionary*, www.wordreference.com/.

Kernan, K. T. (1969). The acquisition of language by Samoan children. *University of California, Language-Behavior Research Laboratory,* 21.

Khan, L. M. L., & James, S. L. (1983). Grammatical morpheme development in three language disordered children. *Journal of Childhood Communication Disorders,* 6(2), 85-100.

Klammler, A., & Schneider, S. (2011). The size and composition of the productive holophrastic lexicon: German–Italian bilingual acquisition vs. Italian monolingual acquisition. *International Journal of Bilingual Education and Bilingualism*, 14, 69-88.

Murakami, A., & Alexopoulou, T. (2016). L1 influence on the acquisition order of English grammatical morphemes. *Studies in Second Language Acquisition,* 38(3), 365-401.

Oetting, J. B., Lee, R., & Porter, K. L. (2013). Evaluating the grammars of children who speak nonmainstream dialects of English. *Topics in Language Disorders*, 33(2), 140–151.

Owens, R. E. (1994). Preschool Language Development: Brown's Stages of Development. *Language: Introductory Readings*, 5, 148–159.

Pinker, S. (1994). On language. *Journal of Cognitive Neuroscience*, 6(1), 92-98.

Popova, M. I. (1958). Grammatichicheskie elementy yazyka v rechi detei preddoshkol'nogo vozrasta (Grammatical elements of language in the speech of pre-school children). *Voprosy psikhol*, 3, 106-117.

Radford, A. (1990). The syntax of nominal arguments in early child English. *Language Acquisition*, 1(3), 195-223.

Ragusa, Olga (1963). *Essential Italian Grammar*. Mineola, New York: Dover Publications, Inc.

Rescorla, L., & Turner, H. L. (2015). Morphology and syntax in late talkers at age 5. *Journal of Speech, Language and Hearing Research,* 58(2), 434-444.

Roy, J., Oetting, J. B., & Moland, C. W. (2013). Linguistic constraints on children's overt marking of BE by dialect and age. *Journal of Speech, Language and Hearing Research,* 56(3), 933-944.

Salerni, N., Assanelli, A., D'Odorico, L., Rossi, G. (2007). Qualitative aspects of productive vocabulary at the 200- and 500-word stages: a comparison between spontaneous speech and parental report data. *First Language, 27*, 75-87.

Slobin, D. I. (1966). The acquisition of Russian as a native language. *The genesis of language: A psycholinguistic approach*, 129-148.

Stockman, I. J. (2006). Alveolar bias in the final consonant deletion patterns of African American children. *Language, Speech & Hearing Services in Schools,* 37(2), 85-95.

Stockman, I. J. (2010). A review of developmental and applied language research on African American children: From a deficit to difference perspective on dialect differences. *Language, Speech & Hearing Services in School,* 41(1), 23-38.

Tek, S., Mesite, L., Fein, D., & Naigles, L. (2014). Longitudinal analyses of expressive language development reveal two distinct language profiles among young children with autism spectrum disorders. *Journal of Autism and Developmental Disorders,* 44(1), 75-89.

Tomas, E., & Dorofeeva, S. (2019). Mean length of utterance and other quantitative measures of spontaneous speech in Russian-speaking children. *Journal of Speech, Language and Hearing Research,* 62(12), 4483-4496.

Tonelli, L., De Marco, A., Vollmann, R., & Dressler, W. (1998). Le prime fasi dell'acquisizione della morfologia. *Parallela, 6*, 281-301.

Tonelli, L., Dressler, W., & Romano, R. (1995). Frühstufen des Erwerbs der italienischen Konjugation. *Suvremena Linguistika, 21*, 3-15.

Tonelli, L. & Fabris, M. (2005). Tonelli, L., & Fabris, M. (2005). L'acquisizione della flessione verbale esemplificazione di un metodo di ricerca. *Annali della Facoltà di Lingue e Letterature Straniere dell'Università degli Studi di Sassari*, 2-13.

Varghese, J. S., Thomas, D. E., Nebu, A. E., Sunny, S. V., & Kumaraswamy, S. (2014). Brown's morphological skills in typically developing bilingual (malayalam-english) speaking children. *Language in India,* 14(4), 150-160.

Varghese, V. M., & Kumaraswamy, S. (2015). Brown's morphological skills in typically developing bilingual (kannada-english) speaking children. *Language in India,* 15(12), 317.

Volterra, V. (1972). Prime fasi di sviluppo della negazione nel linguaggio infantile. *Archivio di Psicologia, Neurologia e Psichiatria*, 33, 16–53.

Volterra, V. (1976). A few remarks on the use of the past participle in child language. *Journal of Italian Linguistics*, 2, 149–157.

Volterra, V. (1984). Waiting for the birth of a sibling: The verbal fantasies of a two-year-old boy. In I. Bretherton (Ed.), *Symbolic Play.* New York: Academic Press.

Warlaumont, A. S., & Jarmulowicz, L. (2012). Caregivers' suffix frequencies and suffix acquisition by language impaired, late talking, and typically developing children. *Journal of Child Language,* 39(5), 1017-42.

Werfel, K. L. (2018). Morphosyntax production of preschool children with hearing loss: An evaluation of the extended optional infinitive and surface accounts. *Journal of Speech, Language and Hearing Research,* 61(9), 1-12.

Zakharova, A. V. (1958). Usvoenie doshkol'nikami padezhnykh form (Mastery by preschoolers of forms of grammatical case). *Doklady APN RSFSR*, 3.

VITA

Marie Laiche is pursuing her master's degree with the Louisiana State University Communication Sciences and Disorders program in Baton Rouge, Louisiana. Marie previously earned her bachelor's degree in Communication Sciences and Disorders from Louisiana State University with minors in English, Linguistics, and Italian. Upon graduation in May 2021, Marie will become a speech-language pathologist and aspires to work with the pediatric population. Marie plans to focus on her interests in early language development, articulation and phonological processing disorders, and autism spectrum disorders in her future endeavors.